

Student Name _____

**Weed Science, PLS 4601c Section 7644
and Grad. – Prin. Of Weed Science AGR 6932 Section 9212
University of Florida - Davie**

<http://grove.ufl.edu/~turf/weedscience/>

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Final Exam

Multiple choice - circle the right answers, 3 pts. X 50

1. What is the scientific name of tropical soda apple?
 - a) Dioscorea bulbifera
 - b) Imperata cylindrica
 - c) Lygodium microphyllum
 - d) Neyraudia reynaudiana
 - e) Solanum viarum

2. Which is a contact herbicide?
 - a) 2,4-D
 - b) glyphosate
 - c) imazapyr
 - d) metsulfuron
 - e) paraquat

3. To which concept does the following statement apply: "Averaged over 3 yr, the daily, conditional weekly, and severely wilted irrigation treatments resulted in 30, 6, and 2% dollarweed cover, respectively."
 - a) a weed as a plant out of place
 - b) cultural management of weeds
 - c) invasive properties of weeds
 - d) negative aspects of weeds
 - e) selective herbicidal control of weeds

4. What do the expressions DF, EC, G, L, WDG, WP, WS, and WSP pertain to?
- a) herbicide formulation
 - b) invasive qualities of weeds
 - c) LD₅₀
 - d) the binomial system of nomenclature
 - e) categories of pesticide license
5. The most permanent of environmental degradations:
- a) biological invasion
 - b) drainage of the Everglades
 - c) nuclear accidents
 - d) pesticide contamination
 - e) phosphate contamination
6. What can you say about the weed to the right:
- a) interpetiolar stipules
 - b) long petioles
 - c) opposite leaves
 - d) parallel venation
 - e) vine
7. Who wrote Silent Spring?
- a) Aristotle
 - b) Fritz Haber
 - c) James Watson
 - d) John Dalton
 - e) Rachel Carson
8. The family of the plant on the right is:
- a) Asteraceae
 - b) Fabaceae
 - c) Cynodon
 - d) Poaceae
 - e) Rubiaceae



9. Which herbicide is translocated towards the apex:

- a) atrazine
- b) fluazifop-p
- c) glyphosate
- d) oxadiazon
- e) paraquat

10. The weed to the right is in which family:

- a) coffee
- b) grasses
- c) pea
- d) sedges
- e) sunflower



11. Which herbicide is most toxic (acute oral to adult rats):

- a) $LD_{50} = 112$
- b) $LD_{50} = 343$
- c) $LD_{50} = 1800$
- d) $LD_{50} = 2300$
- e) $LD_{50} = 3900$

12. What is the relevance of the phrase, “applying a pesticide against any target pest not specified on the labeling if the application is to the crop, animal, or site specified on the labeling” in the legal definition of the manner that pesticides can be used.

- a) It is a form of warranty from the manufacturer.
- b) It is an exception to the requirement to use a pesticide on a specific crop and site.
- c) It is an exception to the restriction on using any registered pesticide in a manner not permitted by the labeling.
- d) It says that you may not use a pesticide at lower than the labeled dose or at less frequency than on the label.
- e) It says you may not apply a pesticide to a pest that is not on the label.

13. A direct role of some proteins in plants is:
 - a) biological catalysts
 - b) containing the genetic code
 - c) evapotranspiration
 - d) hemoglobin
 - e) pollination
14. What organelle is involved with respiration in plants?
 - a) chloroplast
 - b) chromosomes
 - c) nucleus
 - d) All of the above
 - e) None of the above
15. Which is an ALS inhibitor?
 - a) 2,4-D
 - b) glyphosate
 - c) imazapyr
 - d) paraquat
 - e) pendimethalin
16. An important part of an herbicide formulation not on the label:
 - a) active ingredient
 - b) inert ingredients
 - c) procedure in case of accident
 - d) safety equipment
 - e) warranty
17. Wind is very important in:
 - a) evapotranspiration
 - b) herbicide spraying effectiveness
 - c) pollination of grasses
 - d) All of the above
 - e) None of the above

18. What is the name of a mature plant ovary?
 - a) fruit
 - b) ovule
 - c) seed
 - d) All of the above
 - e) None of the above
19. What is the name for a horizontal underground plant stem?
 - a) corm
 - b) stolon
 - c) tuber
 - d) All of the above
 - e) None of the above
20. Which is a preemergence herbicide?
 - a) 2,4-D
 - b) glyphosate
 - c) imazapyr
 - d) paraquat
 - e) pendimethalin
21. The scientific name of torpedograss is:
 - a) *Bidens alba*
 - b) *Cynodon dactylon*
 - c) *Eleusine indica*
 - d) *Panicum repens*
 - e) *Solanum viarum*
22. How much does it cost to develop a new herbicide and how many years of testing does it take?
 - a) \$500 thousand to \$1 million and 7 to 10 years
 - b) \$5 million to \$10 million and 7 to 10 years
 - c) \$50 million to \$100 million and 7 to 10 years
 - d) \$500 million to \$1 billion and 7 to 10 years
 - e) none of the above

23. What is the approximate atomic weight of ethanol C_2H_5OH ?

- a) 9
- b) 12
- c) 16
- d) 32
- e) 46

Period	1																	18
1	1 H 1.008	2	Group										13	14	15	16	17	2 He 4.003
2	3 Li 6.941	4 Be 9.012	Group										5 B 10.81	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.18
3	11 Na 22.99	12 Mg 24.31	3	4	5	6	7	8	9	10	11	12	13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.95
4	19 K 39.10	20 Ca 40.08	21 Sc 44.96	22 Ti 47.88	23 V 50.94	24 Cr 52.00	25 Mn 54.94	26 Fe 55.85	27 Co 58.93	28 Ni 58.69	29 Cu 63.55	30 Zn 65.39	31 Ga 69.72	32 Ge 72.59	33 As 74.92	34 Se 78.96	35 Br 79.90	36 Kr 83.80
5	37 Rb 85.47	38 Sr 87.62	39 Y 88.91	40 Zr 91.22	41 Nb 92.91	42 Mo 95.94	43 Tc (98)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
6	55 Cs 132.9	56 Ba 137.3	57 La *138.9	72 Hf 178.5	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.5	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (210)	85 At (210)	86 Rn (222)
7	87 Fr (223)	88 Ra (226)	89 Ac ~(227)	104 Rf (257)	105 Db (260)	106 Sg (263)	107 Bh (262)	108 Hs (265)	109 Mt (266)	110 Ds (271)	111 Uuu (272)	112 Uub (277)	114 Uuq (296)		116 Uuh (298)		118 Uuo (?)	
Lanthanide Series			58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (147)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	71 Lu 175.0			
Actinide Series			90 Th 232.0	91 Pa (231)	92 U (238)	93 Np (237)	94 Pu (242)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (249)	99 Es (254)	100 Fm (253)	101 Md (256)	102 No (254)	103 Lr (257)		

24. A law from 1947 which with revisions which governs the use of pesticides in the United States?
- a) ADA
 - b) FIFRA
 - c) FQPA
 - d) RED
 - e) WPS
25. The elements He – Ne – Ar – Kr are
- a) halogens
 - b) inert elements
 - c) metals
 - d) noble elements
 - e) oxidizers
26. Which organelle is involved with photosynthesis in plants?
- a) chloroplast
 - b) mitochondrion
 - c) nucleus
 - d) ribosome
 - e) None of the above
27. What supports weeds as “plants that are adapted to disturbed habitats”?
- a) ability to grow for long periods of time
 - b) ability to grow in specific narrow range of soil pH
 - c) presence of natural enemies
 - d) rapid colonization ability
 - e) resistance to control
28. Rubiaceae refers to a:
- a) cultivar
 - b) family
 - c) genus
 - d) order
 - e) species

29. The weed to the right has the common name:

- a) creeping beggarweed
- b) *Desmodium incanum*
- c) southern sida
- d) Spanish needle
- e) white clover



30. A biological compound which is a catalyst:

- a) ALS inhibitor
- b) chlorophyll
- c) enzyme
- d) ribosome
- e) toxin

31. We saw members of the Fabaceae whose leaves were:

- a) trifoliolate
- b) trilabidate
- c) tripeltate
- d) triumvirate
- e) None of the above

32. What is the approximate atomic weight of sodium chloride?

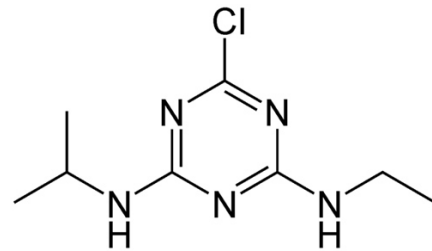
- a) 23
- b) 28
- c) 37
- d) 58
- e) None of the above

33. The following is not a ring compound:

- a) aromatic hydrocarbon
- b) benzene
- c) cyclohexane
- d) methane
- e) triazine

34. Using the table of periodic elements, what is the atomic weight of atrazine, $C_8H_{14}ClN_5$?

- a) 6
- b) 12
- c) 48
- d) 145
- e) 216



35. A dry, indehiscent fruit, with the fruit wall fused to the one ovule

- a) achene
- b) berry
- c) capsule
- d) caryopsis
- e) spikelet

36. Which is an example of the useful properties of weeds?

- a) Weeds are alternate hosts of crop diseases
- b) Weeds are nutritious
- c) Weeds cause allergies
- d) Weeds cause loss of quality in crops
- e) Weeds invade natural areas

37. What family is the weed to the right:

- a) Asteraceae, the sunflower family
- b) Fabaceae, the pea family
- c) Poaceae, the grass family
- d) Rubicaceae, the coffee family
- e) None of the above



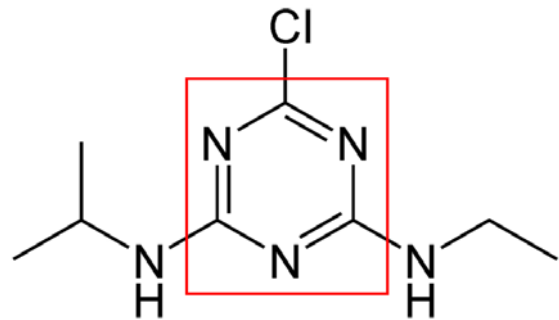
38. Shift in plant species composition of a community over time is:

- a) acquisition
- b) evolution
- c) founder effect
- d) migration
- e) succession

39. When a weed or weed population, or anything, grows rapidly without limitation and without competition, it grows:
- by secondary xylem
 - by succession
 - competition
 - exponentially
 - symmetrically

40. What is the functional group in the square box?

- aniline
- glycine
- methyl
- phenoxy
- triazine



41. A fully subdivided leaf with separate leaflets is:
- compound
 - decussate
 - pinnatifid
 - simple
 - None of the above

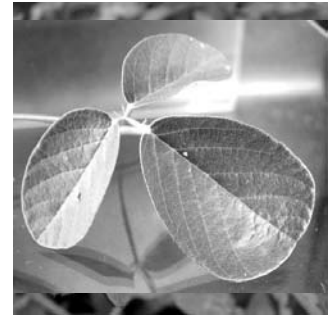
42. What family is this weed in?

- Asteraceae
- Cyperaceae
- Orchidaceae
- Poaceae
- Rubiaceae



43. It is easiest to identify a weed if the following is (are) available?
- flowers and fruits
 - leaves and roots
 - pollen
 - rhizomes and stolons
 - None of the above

44. The weed to the right is in the family:
- a) Asteraceae
 - b) Cyperaceae
 - c) Fabaceae
 - d) Poaceae
 - e) Rubiaceae
45. The weed to the right has the scientific name:
- a) creeping beggarweed
 - b) *Desmodium incanum*
 - c) southern sida
 - d) Spanish needle
 - e) white clover
46. Which herbicide is most likely to provide postemergence control of grasses:
- a) 2,4-D
 - b) glyphosate
 - c) metsulfuron
 - d) Oxadiazon
 - e) pendimethalin
47. Florida's organo-auxin administrative rule applies to 2,4-D and related chemicals and attempts to prevent damage from
- a) drift
 - b) leaching
 - c) microbial degradation
 - d) photodecomposition
 - e) runoff
48. The three and only three facts needed to determine carrier rate per area (e.g., gallons per acre) from a spray boom are:
- a) boom height, nozzle pressure, and ground speed
 - b) nozzle discharge rate, distance between nozzles, and boom height
 - c) nozzle discharge rate, ground speed, distance between nozzles
 - d) number of nozzles, type of nozzles, and spacing
 - e) pressure, nozzle type, and nozzle spacing



49. A family of herbicides that is active at very low dosages and is prone to accidental contamination and tracking from treated areas:
- a) bipyridilium
 - b) dinitroaniline
 - c) paraquat
 - d) sulfonyleurea
 - e) triazine
50. A field is sprayed at 40 gallons per acre with Atrazine 4L which is 4 pounds a.i. (active ingredient) per gallon, and applied at 0.5 gallons of Atrazine 4L per acre. How many pounds of atrazine a.i. are applied per acre?
- a) 0.5
 - b) 1.0
 - c) 2.0
 - d) 4.0
 - e) Cannot be determined

Matching - circle the right answers, 1 pts. X 20 (see p. 14 for words)

51. Write the word in the right column that pertains to the definition in the left.

Definition	Word
Besides weed control, tillage is used improve	
Formulation of 2,4-D that is often very volatile	
Herbicide that contains arsenic	
Inflorescence that branches and branches	
Invasive tree	
Method of vegetative persistence in the soil	
Movement of pesticide through a plant	
Seed that is not ready to germinate	
Strong type of chemical bond	
Tall invasive grass	
The 2-part scientific name for a weed	
There are 3785 of these in a gallon	
Tillage equipment with an array of round vertical plates that is dragged through the soil	
Type of herbicide that is used to treat the weed after it is growing above the soil	
Type of pesticide license requiring one year of employment as a service employee of a licensed pest control business in Florida	
Type of plant adapted to cool climates	
Type of weed that lives multiple (> 2) years	
Variable attachment on an herbicide molecule	
Water use by plant	
Weed species that produces a very large number of propagules	

List of words for question 51:

amine

biennial

binomial

Burmareed

C₃

C₄

covalent

disk

Dormant

ester

evapotranspiration

fallow

functional group

ionic

K-strategist

label

Melaleuca

ml

MSMA

panicle

PCO (Chapter 482)

perennial

Postemergence

preemergence

raceme

rhizome

r-strategist

soil aeration

stolon

translocation

Turf and Ornamental (Chapter 487)

51. You are employed by a landscape care company and your responsibility is to design a comprehensive weed control program for managing condominium grounds including turf and ornamentals. Your program may have to coordinate with irrigation specialists, fertilizer applicators, and mowing services that are outside your company or that are employed directly by the condominium association. So your job is to design as much as possible a “one-size fits all approach” for clients that differ greatly. This means that you must outline options that may vary from site to site.

Outline the following, weed control objectives, list of cultural practices that may have to be considered, trigger points for application of herbicides, and a program of regular scouting and a communication pathway so that the weed control aspects can be conducted properly.